

AL ADWAA

Gem

Science

الصف 4 الابتدائي

إجابات مراجعات الفصل الدراسى الأول

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Model answer (1)

1 Choose the correct answer:

1. The leaves of most desert plants are ....
   - a. are large and broad
   - b. are small and have thorns
   - c. broad and have thorns
   - d. lose water easily
2. Which of the following examples of movement cannot be observed?
   - a. A train moving on rails.
   - b. The movement of the moon around Earth.
   - c. A ball moving in the air.
   - d. A pen falling down.
3. What happens to organisms that do not have methods that help them adapt to environmental conditions?
   - a. Their number increases.
   - b. They extinct.
   - c. They remain the same.
   - d. The biodiversity of the ecosystem increases.
4. The organ which is responsible for the sense of sight is the ....
   - a. ear
   - b. eye
   - c. nose
   - d. skin
5. Which of these materials reflects light better?
   - a. Wood.
   - b. Mirror.
   - c. Plastic.
   - d. Cardboard.
6. Which of the following examples represents a pull force?
   - a. The attraction of the Earth to an object.
   - b. Pushing a box to move it.
   - c. The player kicks the ball.
   - d. The goalkeeper stops the ball.
7. The energy produced when the electric heater is turned on is the .... energy.
   - a. electrical
   - b. sound
   - c. thermal
   - d. chemical
8. Fish breathe the dissolved oxygen in water through.................... .
   - a. skin
   - b. lungs
   - c. gills
   - d. stomach
9. To calculate the velocity of a body, we need to know.................... .
   - a. distance only
   - b. time only
   - c. energy and time
   - d. distance and time
10. What are the two organs that represent the central nervous system?
    - a. Cerebellum and the vertebral column.
    - b. Spinal cord and the brain.
    - c. The sensory and motor system.
    - d. The brain and medulla oblongata.

2 Complete the following sentences using the given words:

(respiratory – balanced - digestive - movements - structural - behavioral - 4 - 100 - unbalanced)

1. Bees are similar to humans in communicating through movements .
2. A body that travels a distance of 20 meters in 5 seconds, so its speed is 4 m/s.
3. When unbalanced forces act on a static body, it will move.
4. Migration of birds to warm places is an example of behavioral adaptation.
5. The system that digests food and obtains nutrients is digestive system.

3 Put (✓) or (✗) in front of each of the following sentences:

1. Communication between ants is through their sense of smell. (✓)
2. Human has tapetum lucidum in his eye to help him see at night. (✗)
3. The energy stored in the battery is called chemical potential energy. (✓)
4. When the speed of a body decreases, its kinetic energy increases. (✗)
5. The nervous system works separately from the senses. (✗)

4 Write the scientific term for each of the following sentences using the given words:

(Friction - Kinetic energy - Energy - Adaptation - Response time)

1. A distinctive feature of an organism that helps it to survive. (Adaptation)
2. The time taken by a body to receive information from the environment, and then processes it and responds to it. (Response time)
3. A force that arises between the surfaces of two bodies in contact and slows down their motion. (Friction)
4. The ability to do work. (Energy)
5. The energy possessed by the body due to its motion. (Kinetic energy)

5 Choose from column (B) what suits in column (A):

(A)	(B)
1 The visible form of energy that is transmitted in the form of waves is .... energy.	(5) Language.
2 .... depends on sound bounce in locating the prey.	(1) light.
3 .... energy is stored in food.	(4) unbalanced.
4 When a rocket is launched and is able to leave the planet, because it is affected by .... forces.	(3) Chemical.
5 .... is a code in the form of sounds to convey information.	(2) Bat.



Model answer (2)

1 Choose the correct answer:

1. The eyes narrow involuntarily to avoid sudden bright light, what are the two organs responsible for this?
   a. Nervous and muscular
   b. Nervous and respiratory
   c. Circulatory and muscular
   d. Circulatory and respiratory
2. Digestion of food begins in the mouth and ends in the ....
   a. anus
   b. stomach
   c. small intestine
   d. large intestine
3. .... helps the human being to maintain the ecological system.
   a. eroding the soil
   b. planting trees
   c. cutting trees
   d. building new urban communities
4. Which of the following cases represents the transmission of a message from the sense organs to the nervous system?
   a. When you take your hands off a hot object.
   b. When you scream after hitting the table.
   c. When your finger bleeds after being injured.
   d. When your finger touches the spines of an aloe vera plant.
5. A boat moves a distance of 30 meters in a time of 10 seconds, so its speed is .... m/s.
   a. 3
   b. 10
   c. 30
   d. 300
6. Which statement explains why you see your reflection when you look in the mirror?
   a. The light is refracted when it passes through the mirror.
   b. The light is reflected back from the mirror.
   c. The light is refracted and bounced off the mirror.
   d. The light is reflected when it passes through the mirror.
7. The class students play tug-of-war in the courtyard, and there are ten students on both sides of the rope, what indicates that none of them moved?
   a. One team has more energy than the other.
   b. One team has half the energy of the other team.
   c. Both sides have equal and opposite forces in direction.
   d. Both teams have unequal and opposite forces in direction.
8. You can determine the roughness of a sound by ....
   a. pitch
   b. type of sound
   c. echo
   d. pattern and type of sound
9. Which of the following allows light to pass through it?
   a. Wood.
   b. Glass.
   c. Metal.
   d. Wall.
10. Among the examples of behavioral adaptations that help an animal to protect itself from enemies are ....
   a. extinction
   b. migration
   c. reproduction
   d. camouflage



2 Complete the following sentences using the given words:

(chemical - thermal - exhalation - inhalation - kinetic - position - echo - friction)

1. The dolphin can locate objects through echolocation by echo.
2. When objects fall downward, the energy stored in them is converted into kinetic energy.
3. The diaphragm muscle contracts and moves down during the process of inhalation .
4. When you ride your bike, the chemical energy which is stored in food inside your body is converted into kinetic energy.
5. The force that reduces the speed of a body and affects in the direction opposite to its motion is friction.

3 Put (✓) or (✗) in front of each of the following sentences:

1. Plants need long roots that extend deep into the soil to survive in the water scarcity environment. (✓)
2. The number of breathing times decreases when doing activities and making effort. (✗)
3. As the force acting on a body increases, the distance it moves increases. (✓)
4. Some insects can communicate by sending flashes of light. (✓)
5. We can see things around us as a result of refraction of light. (✗)

4 Determine the type of adaptation whether "structural or "behavioral":

1. The buttress roots of some plants. (Structural adaptation)
2. The beaks of some birds are sharp and strong to tear the flesh of prey. (Structural adaptation)
3. Some animals hide in burrows to avoid the intense summer heat. (Behavioral adaptation)
4. The presence of gills in fish to help them breathe in water. (Structural adaptation)
5. Frogs hibernate to avoid the extreme drop in temperatures. (Behavioral adaptation)

5 Give an example for each of the following:

1. Transparent material.

   Glass
2. Technological communication systems.

   Cell phone
3. A device that converts electric energy into light and heat energy.

   Electric light bulb
4. An animal has the ability to turn its head in all directions.

   Owl
5. Pushing force.

   Kicking a ball



Model answer (3)

1 Choose the correct answer:

1. When gasoline is burned, the stored chemical energy is released in the form of ....
   a. smokes
   b. carbon dioxide gas
   c. spark
   d. heat

2. What kind of surfaces scatter the light randomly?
   a. Shiny
   b. Rough
   c. Smooth
   d. Transparent.

3. The antelope that lives in the vast plains adapts by ....
   a. thick fur that helps to keep warm in winter
   b. long legs that help it to run quickly
   c. bright colors help him to attract the other sex
   d. a strong outer shell protects it

4. Humpback whales use singing for ....
   a. warming
   b. hiding from enemies
   c. mating and feeding
   d. having fun with whales

5. The organ that processes and interprets information similar to a computer is ....
   a. spinal cord
   b. skin
   c. brain
   d. nerves

6. The movement of a sailboat in the water by the action of the air is .... force.
   a. pull
   b. push
   c. friction
   d. gravity

7. As the time taken to travel a certain distance increases, the speed of the body ....
   a. increases
   b. does not change
   c. decreases
   d. doubles

8. .... is the sense that you use to identify the smell of a perfume.
   a. Taste
   b. Sight
   c. Smell
   d. Hearing

9. The juices of the liver and pancreas are poured into ....
   a. the stomach
   b. the small intestine
   c. the large intestine
   d. the mouth

10. The tapetum lucidum is one of the.................... adaptations that enable some animals to see in the dark.
    a. structural
    b. behavioral
    c. (a and b)
    d. no correct answer



2 Complete the following sentences using the given brackets:

1. The echo sound feature depends on the .... sense. (smelling – hearing)
2. The time taken to receive information from the environment and respond to it is called .... (reaction time - speed time)
3. Electric wires transmit .... energy to homes and streets. (chemical - electric)
4. The force that causes the fruits to fall from the tree downwards is the .... (pushing force - gravity)
5. Fish use .... to extract dissolved oxygen in the water. (lungs - gills)

3 Correct the underlined words:

1. Cows have sharp teeth suitable for eating grass. (flat)
2. When the body reaches its maximum height, it stores maximum kinetic energy. (potential energy)
3. The bowl-like face of an owl is an example of behavioral adaptation. (structural)
4. Sound is the visual form of energy that is transmitted in the form of waves. (light)
5. When the body speed increases, its kinetic energy decreases. (increases)

4 Choose from column (B) what suits in column (A):

(A)	(B)
1 When an unbalanced force is applied to a static body.	(5) Diaphragm.
2 When the wall opposes a moving car and stops it.	(4) Nerves.
3 Wood is an	(3) Opaque material.
4 Carry messages from the brain and spinal cord to the rest of the body.	(1) it starts to move.
5 A large muscle that helps in the inhalation and exhalation processes.	(2) it is a friction force.

5 Determine the type of the energy in each of the following cases:

1. Energy stored in batteries. (chemical energy)
2. The energy produced when the electric heater is turned on. (heat energy)
3. Energy stored in a ball at the top of a ramp. (potential energy)
4. The energy of a player while running. (kinetic energy)
5. The energy generated when the radio is turned on. (Sound energy)

Model answer (4)

1 Choose the correct answer:

1. Which of the following is a source of light?

a. The moon. b. The eyes. c. The fire. d. The mirror.

2. Ramy stopped suddenly while he was riding his bike because he heard the sound of a car speeding towards him. Which device received the external hearing signal that enabled Ramy to respond by stopping his bike?

a. The circulatory system. b. The excretory system.

c. The muscular system. d. The nervous system.

3. Fatima pushes a big box and Ezz comes to help her.

How does this change the force and the distance moved by the box?

a. It does not change the force or the distance.

b. The force increases and distance decreases.

c. The force and distance increase. d. its force decreases, its distance increases.

4. The system responsible for digesting food and supplying the body with nutrients is ....

a. respiratory b. digestive c. excretory d. nervous

5. Bats use their sense of .... to reach their prey and avoid hitting objects

a. sight b. smell c. hearing d. taste

6. Which of the following helps reptiles, such as the panther chameleon, to hide among the leaves of trees?

a. Colored scales. b. Brown fur. c. Short legs. d. Golden fur.

7. The energy stored in a compressed spring is considered .... energy.

a. chemical b. kinetic c. potential d. electric

8. The unit that measures speed is ....

a. seconds/meter b. hour/kilometer c. meter/second d. meter/kilometer

9. What happens to the kinetic energy when you clap your hands?

a. It converts to sound and heat energy b.It converts to solar and potential energy

c. Some of the energy is lost and some of it turns into sound energy

d. Some energy is lost and some energy turns into chemical energy

10. .... is one of the common ways of communication between humans and animals.

a. Mobile phone b. Paintings c. Flashes d. Writing



2 Complete the following sentences using the given brackets:

1. The .... in the mouth moistens the food to facilitate its digestion and swallowing. (tongue – teeth)
2. The.................... materials transmit light through them. (transparent – opaque)
3. The gravitational force is the force of .... and its direction is always down towards the earth. (pull – push)
4. A car that travels 80 km in two hours is moving at a speed of .... km / h. (40 – 20)
5. The alveoli in .... are surrounded by a network of blood vessels through which gases are exchanged between blood and air. (trachea -two lungs)

3 write True or False:

1. When animals dig tunnels it is a form of structural adaptation. (False)
2. Meat-eaters animals have long digestive systems. (false)
3. The body's potential energy increases as it rises above the Earth's surface. (True)
4. Energy transformations don't occur when food is cooked. (False)
5. Objects move a great distance when pushed with great force. (True)

4 Write the scientific terms using the given words:

(speed – potential energy - reflexes - communication system – structural adaptation)

1. A change that occurs within the structure of the living organisms' bodies. (Structural adaptation)
2. A group of devices work together to transfer information from one place to another. (Communication system)
3. The distance traveled per unit time. (Speed)
4. The stored energy inside the body. (potential energy)
5. Messages that the nervous system sends quickly and you cannot control them. (Reflexes)

5 Choose from column (B) the sensory information that suits each sense organ in column (A):

(A)	(B)
1 The hand	(2) Light coming from an open window.
2 The eyes	(5) The bad smell.
3 The tongue	(1) Heat from a hot stove.
4 The ears	(3) Sour lemon taste.
5 The nose	(4) Noise coming from the car loudspeaker.

Model answer (5)

1 Choose the correct answer:

1. What is the energy transformation when riding a bike?
   a. Thermal energy converts into potential energy.
   b. Chemical energy converts into kinetic energy.
   c. Solar energy converts into chemical energy.
   d. Kinetic energy converts into nuclear energy.

2. Which of the following can store energy?
   a. Battery.   b. Wire.   c. Plastic.   d. electric lamp.

3. What is the necessary mathematical relationship to calculate the velocity?
   a. distance ÷ time   b. time ÷ distance   c. mass ÷ time   d. time ÷ mass

4. The .... leaves help plants absorb sunlight.
   a. small   b. broad   c. triangular   d. spiny

5. The diaphragm muscle contracts and moves downwards during the .... process.
   a. inhalation   b. exhalation   c. digestion   d. feeding

6. Table salt can be distinguished from sugar by the sense of ....
   a. sight   b. smell   c. hearing   d. taste

7. Which of the following allows light to pass through it?
   a. Wood.   b. Glass.   c. Metal.   d. Wall.

8. The opposite figure represents .... force.
   a. pushing   b. pulling
   c. gravity   d. friction

9. Each of the following represents kinetic energy except ....
   a. vibration of particles of the substance during heating
   b. the movement of sound or light waves in the air
   c. the movement of electrons inside a wire
   d. a ball stuck to the top of a tree

10. Bees depend in communication on ....
    a. light   b. sound   c. smell   d. movement



2 Complete the following sentences using the given brackets:

1. The velocity of a body increases when the time taken to cover a certain distance .... (increases - decreases)
2. The main source of light on the Earth's surface is the .... (sun – fire)
3. The blood transports .... from the lungs to all the cells of the body. (oxygen gas - carbon dioxide gas)
4. The amount of energy required to move a body through the force acting on it is known as .... (work - force)
5. When you knock on the door, the .... energy changes into .... energy. (kinetic - sound / kinetic - potential)

3 Correct the underlined words:

1. The spinal cord is the main control center in the human body. (brain)
2. Fish breathe the dissolved oxygen in water through the skin. (gills)
3. One of the negative effects of water pollution on humans is chest disease. (air)
4. A ball that rolls on a ramp gradually its potential energy increases as it falls. (kinetic)
5. When balanced forces act on a static body, it moves. (unbalanced)

4 Choose from column (B) what suits in column (A):

(A)	(B)
1 A pattern has meaning	(2) The friction force
2 A force arises between two touching surfaces.	(5) Its speed increases
3 The light property helps us to see our image in mirror	(4) Chemical energy
4 The stored energy in gasoline	(3) Light reflection
5 When the applied force on object increases , ...	(1) The code

5 Classify the following into (structural or behavioral) adaptation:

1. The presence of sharp thorns in some desert plants. (structural adaptation)
2. The varied diet property in some animals. (behavioral adaptation)
3. The activity of bats at night to search for food. (behavioral adaptation)
4. Sharp teeth in predators. (structural adaptation)
5. The eyes of the panther chameleon move in different directions. (structural adaptation)